

**Channel Islands National Marine Sanctuary
Marine Reserves Working Group Meeting**

January 17, 2001
8:00 A.M. – 4:00 P.M.
Flying A Studios Meeting Room
University of California
Santa Barbara, California

MEETING SUMMARY

Meeting Objectives

The objectives of this meeting were:

- Provide opportunity for the Science Panel to review their recommendations for marine reserve design and respond to questions from the MRWG;
- Provide opportunity for the Socioeconomic Panel to present their findings and respond to questions from the MRWG;
- Review, edit, and approve Monitoring, Evaluation and Administrative Recommendations; (*note: This item was postponed to the next meeting*)
- Review list of unresolved issues and plan approach for addressing them;
- Develop agenda ideas for upcoming meetings.

In Attendance:

Mike Eng – Facilitator
John Jostes - Facilitator
Dave Parker, alternate for Patty Wolf,
Co-Chair
Sean Hastings, alternate for Matt Pickett,
Co-Chair
Locky Brown
Marla Daily
Gary Davis
Robert Fletcher
Dr. Craig Fusaro
Dale Glantz
Neil Guglielmo
Greg Helms
Mark Helvey
Deborah McArdle
Dr. Michael McGinnis
Harry Liqournik, Alternate for Chris
Miller
Tom Raftican
Steve Roberson

Alicia Stratton, with Shawn Kelly
possible replacement member

Science Panel Members:

Matt Cahn
Steve Gaines
Pete Haaker
Steve Murray
Dan Reed
Joan Roughgarden
Bob Warner
Russ Vetter

Socio-econ Panel Members

Bob Leeworthy
Peter Wiley
Carrie Pomeroy

DFG Staff – Paul Reilly, John Ugoretz

Public included approx. 25 people

1. Welcome and Introductions (Round Table)

John Jostes, co-facilitator for the meeting, welcomed everyone and introductions were made around the table. The Science Panel members and audience introduced themselves as well.

Alicia Straton– Introduced Shawn Kelly, a graduate student in the Bren School, UCSB, and an active Surfrider member, Ventura Chapter. With the MRWG's consensus he will replace Alicia on the panel. Alicia no longer has the time available to make the majority of the meetings. The group was in consensus to accept Shawn as the new member with Alicia as alternate. This recommended change must be ratified by the SAC.

2. MRWG members provided a summary of their constituent outreach efforts and feedback they have received.

Marla Daily – Nothing to report

Craig Fusaro – Nothing to report

Mark Helvey – Nothing to report

Locky Brown – Is still sending announcements in diving newsletters.

Steve Roberson – Nothing to report

Bob Fletcher – Continues to discuss impact of the cowcod closure with his constituents, concerned about cumulative impact of other regulations with what MRWG decides.

Alicia Straton – Has been talking with Surfrider Foundation director about a newsletter piece.

Greg Helms – Attended the SAC's Conservation Working Group meeting and fielded questions about reserve issues.

Tom Raftican – Expressed continuing concerns about a variety of closures as well as confusion among his constituents. He felt we need to step back and look at things.

Mike McGinnis – Has a couple public talks coming up that will be advertised locally.

Harry Liquornik – Reported that commercial fishing constituents would like to see more regional management.

Dale Glantz – Looked more closely at socioeconomic data and refined it since the last meeting. Discussed Science Panel's recommendation and how it applies to help. Interested in today's discussion with the Science Panel.

Paul Reilly (DFG) – Reported the Marine Life Protection Act master plan team is formulating an approach to marine reserve implementation and will have a mass mailing soon. Public workshops will begin in July 2001 up and down the coast.

John Ugoretz (DFG) – Had a phone conversation with a San Pedro Harbor commercial fisherman who was worried about boats that are displaced by reserves would move south. Noted the lack of outreach beyond our local fleets.

Sean Hastings – Briefed the SAC during their annual retreat. The SAC is taking a heightened interest in the MRWG process. Also, attended and presented to the SAC's Conservation Working group. Matt Pickett wanted to extend an invitation to American Association Advancement Science (AAAS) symposium in San Francisco, CA on Feb. 17, 2001. Two reserve discussions are scheduled at the conference, one on the science of reserves, the other on the integration of reserve science and reserve policy. The Sanctuary will cover MRWG member travel and registration costs if they would like to attend.

3. Review/Adopt Meeting Summaries (December 2000, Public Forum 2000)

Minor editorial comments can be sent to Sean, other major changes can be discussed at the meetings. This new process is similar to the SAC process. Comments for the December notes will be accepted until January 26. The web site now has summaries through October. The more recent summaries will be available at the end of this week.

4. Science Panel Presentation and Question Period

Satie Airame summarized the Science Panel Recommendation, allowing questions throughout the summary.

Two documents were distributed:

Questions for the Science Advisory Panel – A list of MRWG's questions with answers from the Science Panel.

Estimating Reserve Size – Abstract from Science Panel paper as well as all figures they are working with.

What was the guidance and directions given to the Science Panel?

The Science Panel's recommendation is based on the MRWG developed Goals for Biodiversity, Fisheries Sustainability, as well as research. The Science Panel was aware of the MRWG changes to the wording of the goals since June of 2000, but the intent of the goals has not changed. "To achieve sustainable fisheries by integrating marine reserves in fisheries management" is a statement critical to the recommendation.

How are ecosystem biodiversity and fisheries management goals compatible?

Marine reserves are important tools for marine conservation and fisheries management, with the potential to provide ecosystem protection, improved fisheries yields, expanded understanding of the marine environments, and improved non-consumptive opportunities.

Across all reserves, abundance (measured as density) approximately doubled, biomass increased 2.5 times that in fished areas, average body size increased by approximately 1/3 (equivalent in many fish to an increase in egg output of 240% or more), and the number of species present per sample increased by 1/3 (Halpern 2000, Table 1 in Roberts and Hawkins 2000).

For any given area, increased biomass of a species should result in a greater reproductive output (e.g. Nassau grouper in Sluka *et al.* 1997).

Evidence for spillover from reserves primarily comes from four types of evidence,

- (1) dispersal of tagged fish from reserve to non-reserve areas (Attwood and Bennett 1994, Johnson *et al.* 1999);
- (2) high densities of fished species inside reserves and near the edges of reserves in non-reserve areas (Ratikin and Kramer 1996, Russ and Alcala 1996, McClanahan and Kaunda-Arara 1996);
- (3) increased fishing effort at the edges of reserves (Ramos-Espla and McNeill 1994, Polunin and Roberts 1993, and Murawski *et al.* 2000); and
- (4) decreased catch following the collapse of reserve regulations (Alcala and Russ 1990).

For conservation, the benefit of reserves increases with size. There are several reasons for the relationship between biodiversity and reserve size.

- (1) The number of species protected within a reserve increases with size of the reserve.
- (2) A small reserve areas may be insufficient to protect mobile and migratory species (e.g. fishes) that move across reserve boundaries.

Suitable habitat can be identified for an individual species, the list of over 100 species of concern (developed by the MRWG) requires a habitat-based approach. Thus representing habitats types is critical, not 30-50% of the whole area. While closing 30-50% of these habitats will equal 30-50% of the area it is not any 30-50%, but specific parts.

A minimum size of 30% will sustain approximately 80% of species. To protect all species a minimum size of 70% set aside would be required. Many studies recommend 35% for general conservation of species. This Science Panel has recommended 30-50%, this will not necessarily protect all species but has a good chance of protecting around 70%.

For fisheries management, the maximum benefit of no-take reserves occurs when the reserve is large enough to export sufficient larvae and adults, and small enough to minimize the initial economic impact to fisheries.

For the following figures please refer to the handouts – copies will be available on the Sanctuary website as well.

Figure 2. Production expressed as a function of stock size, fishing mortality, or reserve size. The “maximum sustainable yield” (MSY) policy suggests that the optimal target stock is $(1/2)k$ (k is the carrying capacity). However, traditional fisheries models, such as the MSY policy, often quickly and inevitably lead to fishery collapse because of unpredictable perturbations to the population from fluctuations in the environment and from unavoidable errors in policy implementation.

Figure 3. Probability of fishery collapse over 50 years as a function of stock size.

Figure 4. History of the Newfoundland cod fishery.

Developing sustainable fishing practices.

1. One way to develop sustainable fishing practices is to set aside $1/3$ to $1/2$ of the management area (or stock) as a reserve, while fishing at the same effort (MSY) outside the reserve.
 2. The same protection of populations could be attained without no-take reserves if the fishing mortality were lowered to allow the population to reach $(2/3)k$ to $(3/4)k$. However, in spite of a reduction in fishing effort, by-catch and habitat modification will continue to affect fished areas. Consequently, reduction in fishing effort is not equivalent to setting aside no-take reserve areas.
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In order for fish stocks to persist, successive generations must replace each other on average. This means that the reproductive population size must not fall below the *threshold level* that is necessary for replacement. Threshold replacement levels of 91 populations of 27 fish species in Europe and North America varied widely among species (Mace and Sissenwine 1993).

- Replacement threshold levels ranged from 2.0% to 65.4% of the carrying capacity (k), with a mean of 18.7%. However, 18.7% should be considered too low for use as the default threshold replacement level since it is risky to assume that a stock is “average” when nothing is known about the spawning-recruitment relationship.
 - A more conservative approach to management would require default threshold replacement levels of poorly known fisheries stocks to exceed the 80th percentile of the cases in this study (approximately 30% of the carrying capacity). Although a 30% estimate may be overly-conservative for an “average” stock, 20% of the cases in this study (or 18 populations) exhibited threshold replacement levels above 30%.
 - To sustain all 27 species in the study, the level of protection must equal the threshold replacement level of the most sensitive population (65.4% of the carrying capacity).
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Bob Fletcher – What do you mean by “protect”, the Pacific Council has specific percentages of stock to define this?

While that approach works for single species it does not fairly represent a range of species. To use as a rule of thumb, 20% is too low to protect a range of species. Looking at all species together the 80th percentile will be a better rule. As you set aside more habitat, more species are protected.

It is possible to estimate the types of species that are vulnerable to continued fishing pressure.

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- For example, if fishing effort reduces populations to 10% of their carrying capacity, a large number of species will be vulnerable to stock collapse, including Atlantic swordfish, yellowtail flounder, halibut, sole, redbfish, saithe, yellowfin sole, horse mackerel, haddock, Pacific halibut, whiting, herring, walleye pollock, silver hake, sprat, mackerel, hake, megrim, and sardine.
 - If fishing effort is limited so that populations reach 30% of their carrying capacity, fewer species (walleye pollock, silver hake, sprat, mackerel, hake, megrim, and sardine) will be vulnerable to stock collapse.
 - If fishing effort is reduced sufficiently so that fished populations reach 50% of their carrying capacity (commonly referred to as maximum sustainable yield), even fewer populations will be at risk (megrim and sardine).

Dr. Milton Love described the status of rockfish species in the Channel Islands and locations that supported rockfish populations in the past. Most species of rockfish are “in the toilet” as far as population status. He presented a video of deep submersible footage. He hypothesized on a possible relationship between high sponge and crinoid abundance and rockfish abundance. He demonstrated the lack of large rockfish in many areas where you would expect them to occur, and where they occurred based on historic landings.

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- Bocaccio and cowcod were popular and relatively abundant sportfish in the 1950s and 1960s. At that time, single boats easily caught 160 fish per day.
 - Both species were declared overfished by the Pacific Fisheries Management Council, and are estimated at 2% of their historical population sizes. Today, Dr. Love and his research team observe 2-3 bocaccio per hour and approximately 8 cowcod per day.
 - The greatest concentration of bocaccio and cowcod occur around Platform Gail, which acts as a *de facto* reserve, limiting the fishing effort.

Rockfish Habitat – From Love, et al.

High quality rockfish habitat in the CINMS

Nearshore habitat (20 fathoms or less)

South of San Miguel Island - Westcott Shoal
North shore of Santa Rosa Island - Talcott Shoal
Santa Rosa Island - Foul area south of East Point
Santa Rosa Island - Rodes and Beacon Reefs

Santa Cruz Island - Morse Point/Gull Island area
Santa Cruz Island - Fraser Point area
Santa Cruz Island - Willows Anchorage area
Santa Barbara Island - Rocky area adjacent to and north of Sutil Island

Deep reef habitat

North of San Miguel Island - The Horseshoe Reef/Richardson's Rock
Santa Rosa Island - Bee Rock
Highspot in Santa Cruz submarine Canyon
Southeast of Anacapa Island - Footprint and 153 fathom spot
Rocky ridges between Anacapa and Santa Cruz Islands
Osborne Bank near Santa Barbara Island and nearby shoal and seamount areas

And others...

MRWG dialogue with the Science Panel

Bob Fletcher – Worried that Science Panel is ignoring existing fisheries management and that current management is much more severe than even a few years ago. This reduction in fishing effort must have some effect on the size or percentage of habitat you recommend setting aside in reserves.

Steve Gaines – The Science Panel recommendation does consider current fisheries management. The 30-50% recommendation is based on the amount of outside effort, the higher the effort the higher the percentage. Also, reserves provide benefit to the entire ecosystem within an area.

Bob Fletcher – Certain stocks do not need the same level of protection and are being adequately protected by current management.

Russ Vetter – The Channel Islands does not have a lot of cowcod habitat. Additionally, with certain fishing practices still allowed in the closure area, bycatch will occur, even though no groundfish will be allowed out of the area. Nearshore species can be taken in waters shallower than 20 fathoms and therefore are not protected by this closure.

Locky Brown – How long will it take to see the reported benefits of reserves, like spillover?

Response - In Chile it occurred very rapidly. Plotting change in diversity compared to length of time shows a two to four year response, though slower growing species will necessarily move more slowly.

Bob Fletcher – Will the cowcod conservation area have an effect on rockfish areas in the next few years?

Response - There has been about 25 years of poor oceanographic conditions for rockfish with very little recruitment. 1999 was a very good year, but 2000 was very poor. If current conditions persist, little change will occur in the near future. 1999 had a fair recruitment of bocaccio. This year the 1999 year-class was still there, but not in the numbers necessary to solve the rockfish problem.

Bruce Steele – are the smaller rockfish species still recruiting?

Response - Yes, squarespots, swordspines and other southern species seem to do well in this regime.

Neil Guglielmo – What has been the effect of the closure in Santa Monica Bay?

Response - None, it may have forestalled the slide but recreational fishing has still had the same effect. You could argue that the lack of a commercial kelp and sandbass fishery has let those species continue in California.

Tom Raftican – If the warm water regime has had an effect in southern California have the fish moved north?

Response - Most rockfishes move very little, with the exception of young bocaccio. Portuguese ledge off Monterey has acres of habitat there are still very few fish.

Mike Eng – The MRWG is challenged with making tradeoffs. What are the highest priority areas to start building agreements?

Response - As the MRWG tries to work through this, should they start at the high value areas depicted in the summed solutions map and expand beyond these areas.

The summed solutions map derived from the modeling exercise helps to identify certain areas to consider reserves for their representation of each habitat. The handout *Locating marine reserves* discusses representative habitat. That is precisely what some of the single solutions do. Note that diversity and abundance is not represented by the summed solutions.

Harry Liqournik – Is 30% of habitat more important or 30% of species?

Response - The Science Panel's task was to look at a variety of species, one of the complicating factors is that it is very hard to weight habitat. Different habitats will support different parts of the list of species of concern.

Harry Liqournik – Could you put economic value in the cell?

Response - Yes, but the Science Panel was not tasked with considering economic value, that is the job of the MRWG and the Socio-economic Panel.

Joan Roughgarden – A staff level connection between the scientists and socioeconomists would be better. That way a menu of scenarios could be offered.

Mike McGinnes. – What about certain keystone species, and what level of protection do they require?

Response - There are several definitions of keystone species, and examples of keystone species depending on the definitions, i.e. lobster, urchin, and squid. If there is a single or group of keystone species that effect system. SP can't really pick a single species, but habitat will help delineate it.

Mark Helvey – What about rockfish? Where do they fit into the summed solutions?

Milton Love – Pick areas that say rocky on a chart, generally high relief deep reef. Particularly NW San Miguel, N Santa Rosa (Talcott shoals), Rodes and Beacon reef. Santa Cruz Canyon seamount, Gull island, the Footprint as well as the stretch between Anacapa and Santa Cruz. The Osborn bank side of Santa Barbara especially the deeper areas. Shallow areas around Santa Barbara Island are all good.

Greg Helms - Based on oceanographic concerns, can we pick reserves in specific areas?

Response - Basically the science isn't there. San Miguel is the last spot that will stay cold in a warm regime. The most healthy kelp community is at San Miguel as well.

Bruce Steele – Would you expect that closing Osborn Bank to show any change in the species that aren't there now? The places we are most worried about may not show a response?

True, we don't know what will happen with the oceanographic regimes. We can't say what will happen in our lifetimes. Vermillion rockfish might actually come back but some of these bigger species may not.

Bruce Steele – You will see bigger and more, but not in every species. We have to be realistic about what we expect.

Response - That is very true, so we have to be realistic in how we monitor the reserves. We need to be honest with the public on what we expect and what can be demonstrated by reserves.

Additional MRWG questions can be forwarded to the science panel.

7. Socioeconomic Overview

Bob Leeworthy and Peter Wiley, NOAA economists, provided an update and overview of the socio-economic data and impact analysis. Several handouts were provided and referenced. The handouts included – responses to the MRWG's questions, and Recreational and Commercial Data Tables. The Sanctuary will try and make these handouts available on its website. The Socio-economic panel needs reserve scenarios in order to conduct a thorough impact analysis. As soon as the MRWG delivers some reserve maps, the panel can begin its review.

Recreational Fisheries

Peter Wiley described the data available on recreational industries in the CINMS region and the approach to analyzing impacts. Using specific examples from the handouts, Peter walked the MRWG through the approach and the type of outcome the MRWG can expect.

Gary Davis – How did you apportion sport fishing in Ventura County to the study area?

Response - The CPFV operators decided that.

Mike Eng – How do you value the loss to any individual sale?

Response - That will come in later. We won't be able to have a full analysis until the MRWG comes up with alternatives. The full impact study is based on the final alternative.

Tom Raftican – How do you get into the social part of the socioeconomics?

Response - In addition to the anecdotal data survey and booklet that you have, we started with individuals (i.e. fishermen) then expanded to concessionaires, like charter boat operators, etc. So it is currently more of an economic impact study for the recreational industry. Also, the MRWG representation reflects much of the social make-up and interests.

The expenditure data and studies come from county or regional wide studies, not specific studies on the CINMS.

Commercial fisheries

Bob Leeworthy - More detail is available than the commercial fishermen will allow the MRWG to see. Only squid and kelp have been displayed. All other fisheries have been aggregated into a single layer. Bob Leeworthy has approached the fishermen to request release of their data for their own best interest. With specific information the MRWG can avoid major impacts to individual fisheries, without the data, the impact will be determined after the mapping exercise.

Greg Helms – It is unfortunate that we cannot tell if a particular fishery will be eliminated.

Response - On some level the data will be displayed as numbers, just not locations. The MRWG can expect that about 90% of the reported value will have very good information. The last 10% will have varying degrees of accuracy.

Process for map analysis is to map the distribution of the catch's value, then total the ex-value impact by species or species group. Next the distribution of lost value by port is figured. Multipliers are used to convert ex-vessel value to value lost (such as processing).

MRWG Questions to the Socio-economic panel:

There is no modeling of what people do when you close an area. People may move, and fish elsewhere. Removed area might not be totally lost income. Closures could lead to additional losses based on where people move. Reserves could also lead to certain benefits.

Bruce Steele – If scientists are making the assumption that everything is at Optimum Yield, shouldn't the socioeconomic analysis do the same?

Based on the Socioeconomic information, very few fisheries are at Maximum Sustainable Yield (MSY).

Marla Daily – Are there people who are licensed and do not fish?

Yes, using DFG data we could provide number of permit holders and the number of permit holders who landed fish.

Comment - It might be useful to find out about enforcement in the Keys and what might be necessary.

Enforcement in Florida has increased. The new Tortugas reserve will not go into place until the enforcement plan is in place.

Sean Hastings – Does the Dept. of Fish and Game or the Fish and Game Commission consider economic impacts when it creates regulations, such as the cowcod closure?

Dave Parker - The review is minimal, perhaps just acknowledging the existence of possible impact.

Bob Leeworthy - There is a mandatory federal impact review requirement if 20% of a community's industry will be effected by a Federal action. In Florida Keys there were no fishing communities that met a 20% consumptive activity limit. An example would be

20% of the local fishing occurs in the area. This may or may not occur in the Channel Islands. If it is met, a social impact analysis will be mandated.

Sean Hastings – Keep in mind, that when and if the MRWG delivers a consensus recommendation, it can take at least a year and possibly two years before implementation. In the Florida Keys Tortugas process it has taken two years to work through the State and Fisheries Management Council processes.

8. Future Meeting Schedule / Unresolved Issues

Mike Eng – The current process timetable was developed during the November meeting with a target date to deliver a recommendation of May 15th. At the February meeting we need to refine some reserve options to get out to the science and economic panels. The MRWG needs to be ready in February to go back to the drawing board. In order to stay on track, the group needs to address the unresolved issues developed at the December meeting. Michael Eng asked each MRWG member to write down three unresolved issues that need to be addressed.

Unresolved Issues:

- Funding- would like a written commitment from agencies.** See specifics below.
- Need to discuss incremental approach (phasing) as a possibility.** See specifics below.
- Need a uniform approach to enforcement
- Need to discuss minimum requirement of 30% and reduction of effort outside reserves
- Need more measurability of objectives
- How to incorporate Cow cod and other Fishery Management Efforts into the MRWG
- Economic uncertainties associated with designating Marine Reserves
- Enforcement related to size and number of reserves
- MRWG recommendation may act as a constraint on CINMS protection goals
- How to weigh socioeconomic effects in mapping efforts
- Get to an understanding regarding transiting through reserves and "safe harbor" issues. (possession of catch)
- Incorporation of all MRWG goals in mapping process
- Can we model existing Fishery Management regulations with the percentage figures?
- Did goals lock us into 30% figure? Science panel recommendations should be considered "advice." Where is the flexibility?

Follow-up Actions / Suggestions

- Write letter requesting development of strategy for funding and enforcement to all participating agencies. Greg Helms to draft letter. John Ugoretz to assist. Circulate draft via e-mail.
- Craig Fusaro to distribute via e-mail an analysis of phasing.

- Do economic run on least, most, and common area regarding impacts and implications (i.e. 50 %, smallest, mean and common ground).
- Get more information from Regulators on specifics of transiting re: Enforcement. (John Ugoretz)
- Phasing issues - Need to check with Science Panel to see how it effects success of reserves and their recommendations.

Specifically on funding:

What response does the MRWG need before they begin drafting options?

Marla Daily - would like the MRWG to send a very polite query as to whether there is a commitment to enforce, implement, and manage marine reserves.

Mark Helvey – Perhaps ask that the agencies develop a strategy for future funding and management. This would be in the form of a cooperative agreement.

Greg Helms - Will draft a letter with John Ugoretz from the MRWG to the agencies asking for a cooperative strategy.

Specifically on Phasing in reserves over time:

Greg Helms – This might occur automatically based on the process after the recommendation leaves the MRWG.

Deborah McArdle. – Phasing in might cause problems with the science panel, we don't want to loose an area by waiting to protect it.

Discussion ensued regarding the possibility to analyze the current maps with socioeconomic data before mapping began again.

John Ugoretz – Proposed using the common areas the greatest area and the least area and analyze those with the decision support tool.

MRWG agreed to have Satie and the Socio-economic panel conduct a preliminary analysis on a 50% scenario from the science panel, the smallest of the MRWG proposals, the common ground, a middle ground from the MRWG, and the largest area from the MRWG.

Staff will send these four or five options to the socioeconomic panel for an ex-vessel cost analysis.

Mike Eng – Given the substantial unresolved issues, he recommended that the MRWG have another meeting before the February 21, 2001 meeting.

Thursday February 15, 2001 was scheduled as an extra meeting to discuss important issues before mapping.

Suggestions for accomplishing work before Feb 21 meeting:

Form Breakout Groups - Conservation, Agency, Commercial, Recreational, Other

- Each group has a coordinator and presenter

- Meet as needed to present a draft at 2/21 meeting

- Seek support based on decision support tool

- Write up a summary and present it at the meeting

Deborah McArdle – Would rather see the group work together as a whole.

Greg Helms – One pitfall is that people can't really get together in-between the meetings, also what we do at the meeting should be as a whole group. We might do the breakout group technique between the meetings, but meet as a whole group at the meeting.

Craig Fusaro – Another model would be to promote that anyone get together and create scenarios in the interim, and see how many we create.

Gary Davis – Something is not consistent here, I hear the group saying we can't map until when we have dealt with the issues raised today, but everyone is willing to resume mapping?

Harry Liqournik – Informal groups are not as hard to accept as moving forward in the MRWG.

Mike Eng – Current groups should continue working and we will have some other options when we meet again.

4:00 pm The Meeting Adjourned